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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,189	09/12/2003	Darwin Mitchel Hanks	200310345-1	8310

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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT PAPER NUMBER

2627

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/661,189	Applicant(s) HANKS ET AL.	
	Examiner Christopher R. Lamb	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4 total</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed March 27th, 2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of listed foreign patent documents JP 59-89462 and JP 3-121588.

Specification

2. The disclosure is objected to because of the following informalities: in paragraph 1, line 2, the blank space should be filled in with the application number.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. Claims 1-3, 5, 7-9, 11-15, 17, 19-23, 25-28, 30, 32, 34-40, 42-47, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (US 2002/0191517) in view of Ishida et al. (US 6,057,976).

Honda discloses a method of controlling exposure of media to electromagnetic radiation, the method comprising:

rotating the media (paragraph 37);

controlling exposure of the media to electromagnetic radiation with a moveable source (paragraph 47).

Honda does not disclose "sensing a frequency of electromagnetic radiation radiating from a rim of the media with a stationary detector."

However, Honda's method depends on knowing the turning angle of the optical disc (paragraph 37, 47).

Ishida discloses a method of determining the angle of a disc (column 2, line 66 to column 3, line 4), the method comprising sensing a frequency of electromagnetic radiation radiating from a rim of the media with a stationary detector (Fig. 16a: 2; column 15, line 65 to column 16, line 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Honda as taught by Ishida. Honda's method would then become a method of using electromagnetic radiation to control exposure of media to electromagnetic radiation, the method comprising: rotating the media; sensing a frequency of electromagnetic radiation radiating from a rim of the media with a stationary detector; and controlling, with the sensed frequency, exposure of the media to electromagnetic radiation with a moveable source.

The motivation would have been to improve accuracy (presumably reading the rotation angle directly from the disk is more accurate than reading it from the motor).

Regarding claim 2, the method taught by Ishida requires:

providing at least one reflective and one non-reflective region on the media, aligned circularly about the rim of the media (Fig. 16b),

emitting electromagnetic radiation onto the rim of the media as the media rotates (column 4, lines 3-11), and

wherein the electromagnetic radiation radiated from the rim originated from the electromagnetic radiation source directed at the rim (column 4, lines 3-11).

Regarding claim 3, in the method taught by Ishida providing the reflective and non-reflective region includes providing the reflective and non-reflective regions in a spoke pattern on the media (apparent in Fig. 16b).

Regarding claim 5, in the method taught by Ishida emitting the electromagnetic radiation onto the rim of the media includes emitting coherent electromagnetic radiation (column 4, lines 3-11; a laser is a coherent electromagnetic source).

Regarding claim 7, in the method taught by Ishida, sensing the frequency of electromagnetic radiation radiating from the rim of the media includes sensing the frequency of electromagnetic radiation radiating from an inner rim of the media (Fig. 16a).

Regarding claim 8, Honda in view of Ishida discloses a method as discussed above.

Honda in view of Ishida does not disclose "wherein sensing the frequency of electromagnetic radiation radiating from the rim of the media includes sensing the frequency of electromagnetic radiation radiating from an outer rim of the media." Instead, in Honda in view of Ishida, the radiation radiates from the inner rim.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to include in Honda in view of Ishida

Art Unit: 2627

wherein the radiation radiates from the outer rim, because Applicant has not disclosed that having the radiation radiate from the outer rim provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the radiation radiating from the inner rim, as in Honda in view of Ishida, because all that is required is that the pattern be radial around the disc.

Therefore it would have been an obvious matter of design choice to modify Honda in view of Ishida to obtain the invention as specified in claim 8.

Regarding claim 9, in Honda in view of Ishida controlling the exposure of the media to electromagnetic radiation includes controlling the exposure of the media to coherent electromagnetic radiation (paragraph 47; a laser is a coherent electromagnetic source).

Regarding claim 11, in Honda in view of Ishida controlling exposure of the media to electromagnetic radiation includes controlling a placement of a beam of electromagnetic radiation on the media (paragraph 47).

Regarding claim 12, in Honda in view of Ishida controlling exposure of the media to electromagnetic radiation includes controlling the rotation of the media (paragraph 37).

Regarding claims 13-15, 17, 21, and 23, all elements positively recited have already been identified in Honda in view of Ishida.

Regarding claim 19, Honda discloses that the rotation device includes a spindle coupled to the media and a motor coupled to the spindle (Fig. 6).

Regarding claim 20, Honda discloses that the controller includes a motor controller configured to control the motor (paragraph 37).

Regarding claim 22, this is an obvious matter of design choice as discussed in the rejection of claim 8.

Regarding claim 25, Honda discloses that the controller includes radial positioner for controlling a placement of a beam of the electromagnetic radiation on the media (paragraph 47).

Regarding claims 26-28, 30, 32, 34, 36, and 38, all elements positively recited have already been identified in earlier rejections over Honda in view of Ishida.

Regarding claim 35, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include wherein the means for controlling rotational speed includes a motor controller configured to control the rotational speed of the media to 0.25 meters/second at an accuracy of 0.02 percent.

The motivation would have been: in the course of routine engineering optimization/experimentation to determine the necessary print accuracy. Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in claim 35 are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves

Art Unit: 2627

unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Regarding claim 37, this is an obvious matter of design choice as discussed above in the rejection of claim 8.

Regarding claims 39-40 and 42-45, Honda discloses a host computer (46) for controlling the system, and thus inherently includes a program storage system readable by a computer to perform the method steps. All other elements of these claims have already been discussed in the earlier rejections.

Regarding claim 46, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include controlling the rotational accuracy of a spindle onto which the media is fixed to allow placement to within a quarter of a pixel at 600 dpi on the media.

The motivation would have been: in the course of routine engineering optimization/experimentation to determine the necessary print accuracy. Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in claim 46 are considered to be within the level of ordinary skill in the art (see claim 35 above).

Regarding claims 47, 49, and 50, as a laser is a photon source, all elements of these claims have been discussed in the earlier rejections.

4. Claims 4, 6, 16, 18, 29, 31, 33, 41, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Ishida as applied to the claims above, and further in view of Black et al. (US 3,426,337).

Regarding claim 4, Honda in view of Ishida discloses a method of using electromagnetic radiation to control exposure of media to electromagnetic radiation as discussed above.

Honda in view of Ishida does not disclose "wherein providing the reflective and non-reflective regions includes providing the reflective and non-reflective regions in a gear-tooth pattern on the media."

Black discloses providing reflective and non-reflective regions in a gear-tooth pattern on the media (Fig. 1). Black discloses that this pattern allows the apparatus to detect the radial position of the pickup (column 2, line 57 to column 3, line 39).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Honda in view of Ishida to include wherein providing the reflective and non-reflective regions includes providing the reflective and non-reflective regions in a gear-tooth pattern on the media.

The motivation would have been to allow detecting the radial position of the transducer, as taught by Black (although the pattern pickup of Honda in view of Ishida is stationary, it could still be useful to detect the radial position with respect to the disc in order to correct the other laser's position for eccentricity, etc.).

Regarding claim 6, Honda in view of Ishida does not include "wherein emitting the electromagnetic radiation onto the rim of the media includes emitting non-coherent electromagnetic radiation."

The method of Black as applied to Honda in view of Ishida above can use either coherent or non-coherent radiation: Black only specifies a "light source."

It would have been obvious to one of ordinary skill in the art to include in Honda in view of Ishida, and further in view of Black, to include wherein emitting the electromagnetic radiation onto the rim of the media includes emitting non-coherent electromagnetic radiation, because in this case coherent and non-coherent sources are used in the same environment, for the same purpose, and achieve the same result.

Regarding claims 16, 18, 29, 31, 33, 41, and 48, all elements of these claims can be rejected over Honda in view of Ishida and further in view of Black. All specific claim elements have been addressed in the previous claim rejections.

5. Claims 10 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Ishida as applied to the claims above, and further in view of Taniguchi (JP200173096; disclosed in IDS; English-language abstract).

Regarding claim 10, Honda in view of Ishida discloses a method as discussed above. Honda in view of Ishida does not disclose "wherein controlling the exposure of the media to electromagnetic radiation includes controlling the exposure of the media to non-coherent electromagnetic radiation."

Taniguchi discloses exposing the media to non-coherent electromagnetic radiation such as ultraviolet rays (abstract). Taniguchi discloses that this is equivalent to exposing it with laser beams for the purpose of printing labels.

It would have been obvious to one of ordinary skill in the art to include in Honda in view of Ishida wherein controlling the exposure of the media to electromagnetic radiation includes controlling the exposure of the media to non-coherent electromagnetic radiation, because the coherent radiation used by Honda in view of Ishida (a laser beam) is used in the same environment, for the same purpose, and achieves the same result as the non-coherent radiation disclosed by Taniguchi (ultraviolet rays).

Claim 24 is similar to claim 10, and rejected for the same reasons.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Palmer (US 3,711,641), Harman (US 4,027,217).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CRL 3/17/06


THANG V. TRAN
PRIMARY EXAMINER